

PKA II α reg (M-20): sc-909

BACKGROUND

The second messenger cyclic AMP (cAMP) mediates diverse cellular responses to external signals such as proliferation, ion transport, regulation of metabolism and gene transcription by activation of the cAMP-dependent protein kinase (cAPK or PKA). Activation of PKA occurs when cAMP binds to the two regulatory subunits of the tetrameric PKA holoenzyme resulting in release of active catalytic subunits. Three catalytic (C) subunits have been identified, designated C α , C β and C γ , that each represent specific gene products. C α and C β are closely related (93% amino acid sequence similarity), whereas C γ displays 83% and 79% similarity to C α and C β , respectively. Activation of transcription upon elevation of cAMP levels results from translocation of PKA to the nucleus where it phosphorylates the transcription factor cAMP response element binding protein (CREB) on serine 133 which in turn leads to TFIIIB binding to TATA-box-binding protein TBP1, thus linking phospho-CREB to the Pol II transcription initiation complex.

CHROMOSOMAL LOCATION

Genetic locus: PRKAR2A, PRKAR2B (human) mapping to 3p21.31, 7q22.3; Prkar2a, Prkar2b (mouse) mapping to 9 F2, 12 A3.

SOURCE

PKA II α reg (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PKA II α reg of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-909 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKA II α reg (M-20) is recommended for detection of PKA II α , and to a lesser extent, PKA II β regulatory subunits of mouse, rat and mink, and, to a lesser extent human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PKA II α reg (M-20) is also recommended for detection of PKA II α , and to a lesser extent, PKA II β regulatory subunit in additional species, including equine, canine, bovine and porcine.

Molecular Weight of PKA II α reg: 50 kDa.

Positive Controls: Mv 1 Lu cell lysate: sc-3810 or MDCK cell lysate: sc-2252.

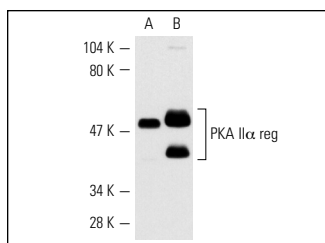
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

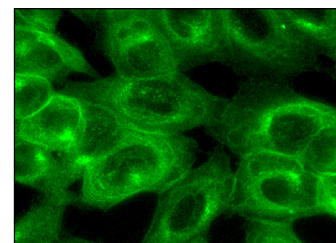
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



PKA II α reg (M-20): sc-909. Western blot analysis of PKA II α regulatory subunit expression in Mv 1 Lu (A) and MDCK (B) whole cell lysates.



PKA II α reg (M-20): sc-909. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Miki, K., et al. 1999. Single amino acids determine specificity of binding of protein kinase A regulatory subunits by protein kinase A anchoring proteins. *J. Biol. Chem.* 274: 29057-29062.
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- Schnizler, K., et al. 2008. Protein kinase A anchoring via AKAP150 is essential for TRPV1 modulation by forskolin and prostaglandin E2 in mouse sensory neurons. *J. Neurosci.* 28: 4904-4917.
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- Rivard, R.L., et al. 2009. AKAP-independent localization of type-II protein kinase A to dynamic actin microspikes. *Cell Motil. Cytoskeleton.* 66: 693-709.
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- Reddy, A.B., et al. 2010. Aldose reductase inhibition prevents lipopolysaccharide-induced glucose uptake and glucose transporter 3 expression in RAW264.7 macrophages. *Int. J. Biochem. Cell Biol.* 42: 1039-1045.



Try **PKA II α reg (H-12): sc-137220** or **PKA II α reg (40): sc-136262**, our highly recommended monoclonal alternatives to PKA II α reg (M-20).